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Japanese

1

LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2005321327 A2 20051117 JP 2004-140528 20040511
PRIORITY APPLN. INFO.: JP 2004-140528 20040511

AB The claimed thin film consists of a highly oriented thin film of a porous metal oxide containing nanosize crystal grains intercalated with conducting polymers or organic ions. Preferably, the process comprises preparing a layered

inorg. compound thin film, intercalating a hydrated alkali metal ion, and then substituting with an organic compound. The resulting gas sensor is especially suitable for detecting VOC gases causing sick building syndrome.

L9 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:591309 CAPLUS

DOCUMENT NUMBER: 143:99431

TITLE: Organic-inorganic hybrid thin film having conductivity

and its manufacture for chemical sensor

INVENTOR(S): Matsubara, Ichiro; Murayama, Nobumitsu; Shin, Woo-Sok;

Izu, Noriya; Hosono, Kota

PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science &

Technology, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2005179115 A2 20050707 JP 2003-422141 20031219

PRIORITY APPLN. INFO: JP 2003-422141 20031219

AB The claimed thin film is manufactured by steps containing (1) preparing a highly

oriented inorg. compound thin film having layered structure, (2) intercalating a hydrated alkali metal ion, and then (3) substituting with an organic compound, e.g., a conducting polymer. The thin film may contain MoO3. The thin film is especially suitable for sensors for detecting volatile organic compds.

L9 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:712312 CAPLUS

DOCUMENT NUMBER: 141:405376

TITLE: Preparation of intercalative organic/MoO3 nanohybrids

and their VOC gas sensing

properties

AUTHOR(S): Matsubara, Ichiro; Hosono, Kouta; Murayama, Norimitsu;

Shin, Woosuck; Izu, Noriya

CORPORATE SOURCE: National Institute of Advanced Industrial Science &

Technology, Shimo-Shidami, Moriyama-ku, Nagoya,

463-8560, Japan

SOURCE: Chemical Sensors (2004), 20(Suppl. B), 276-277

CODEN: KAGSEU

PUBLISHER: Denki Kagakkai Kagaku Sensa Kenkyukai

DOCUMENT TYPE: Journal LANGUAGE: English

AB The authors proposed intercalative type organic-inorg. hybrid materials as the chemical sensors for selective detection of volatile organic compds. (VOCs).

The intercalative organic/MoO3 hybrid materials with a layered structure were prepared A semiconducting-like transport is observed for the polypyrrole intercalated ((PPY)xMoO3) and n-butylammonium ions intercalated

((Bun-H3)xMoO3) hybrid materials. Both the compds. exhibit a distinct response to VOCs by increasing in their elec. resistivity. The two types of hybrid materials show different gas selectivity to VOCs, indicating that the VOC gas selectivity can be controlled by the organic components.

REFERENCE COUNT:

4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s molybdenum (8w) oxide (s) intercalat? (s) (polypyrrole or polyaniline or

polythiol or polyethylene (8w) oxide)

L10 13 MOLYBDENUM (8W) OXIDE (S) INTERCALAT? (S) (POLYPYRROLE OR POLYAN ILINE OR POLYTHIOL OR POLYETHYLENE (8W) OXIDE)

=> display 110 1-13 ibib abs

L10 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1218370 CAPLUS

DOCUMENT NUMBER: 143:464802

TITLE: Manufacture of organic-inorganic hybrid thin film for

high-sensitivity gas sensor

INVENTOR(S): Matsubara, Ichiro; Murayama, Nobumitsu; Shin, Woo Sok;

Izu, Noriya

PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science &

Technology, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE ---------\_ - - - - - ------\_\_\_\_\_ JP 2005321327 **A2** 20051117 JP 2004-140528 20040511 PRIORITY APPLN. INFO.: JP 2004-140528 20040511 The claimed thin film consists of a highly oriented thin film of a porous metal oxide containing nanosize crystal grains intercalated with conducting

layered inorg. compound thin film, intercalating a hydrated alkali metal ion, and then substituting with an organic compound The resulting gas sensor is

polymers or organic ions. Preferably, the process comprises preparing a

suitable for detecting VOC gases causing sick building syndrome.

L10 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:591309 CAPLUS

DOCUMENT NUMBER: 143:99431

TITLE: Organic-inorganic hybrid thin film having conductivity

and its manufacture for chemical sensor

INVENTOR(S): Matsubara, Ichiro; Murayama, Nobumitsu; Shin, Woo-Sok;

Izu, Noriya; Hosono, Kota

PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science &

Technology, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005179115	A2	20050707	JP 2003-422141	20031219
PRIORITY APPLN. INFO.:			JP 2003-422141	20031219

AB The claimed thin film is manufactured by steps containing (1) preparing a highly

oriented inorg. compound thin film having layered structure, (2) intercalating a hydrated alkali metal ion, and then (3) substituting with an organic compound, e.g., a conducting polymer. The thin film may contain MoO3. The thin film is especially suitable for sensors for detecting volatile organic compds.

L10 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:97047 CAPLUS

DOCUMENT NUMBER: 142:337288

TITLE: Preparation of hollow layered MoO3 microspheres

through a resin template approach

AUTHOR(S): Li, Wen-Zhuo; Qin, Cheng-Gang; Xiao, Wen-Ming; Chen,

Jie-Sheng

CORPORATE SOURCE: State Key Laboratory of Inorganic Synthesis and

Preparative Chemistry, College of Chemistry, Jilin

University, Changchun, 130012, Peop. Rep. China

SOURCE: Journal of Solid State Chemistry (2005), 178(1),

390-394

CODEN: JSSCBI; ISSN: 0022-4596

PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Hollow layered MoO3 microspheres were obtained by the adsorption of

12-molybdodiphosphate onto the surface of a spherical anion exchange resin

followed by calcination of the resulting 12-molybdodiphosphate-resin composite. The conductivity of the sphere shell can be improved by

intercalating

polyaniline between layers of MoO3 particles in the sphere shell.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:712312 CAPLUS

DOCUMENT NUMBER: 141:405376

TITLE: Preparation of intercalative organic/MoO3 nanohybrids

and their VOC gas sensing properties

AUTHOR(S): Matsubara, Ichiro; Hosono, Kouta; Murayama, Norimitsu;

Shin, Woosuck; Izu, Noriya

CORPORATE SOURCE: National Institute of Advanced Industrial Science &

Technology, Shimo-Shidami, Moriyama-ku, Nagoya,

463-8560, Japan

SOURCE: Chemical Sensors (2004), 20(Suppl. B), 276-277

CODEN: KAGSEU

PUBLISHER: Denki Kagakkai Kagaku Sensa Kenkyukai

DOCUMENT TYPE: Journal LANGUAGE: English

AB The authors proposed intercalative type organic-inorg. hybrid materials as the chemical sensors for selective detection of volatile organic compds.

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The intercalative organic/MoO3 hybrid materials with a layered structure were prepared A semiconducting-like transport is observed for the polypyrrole

intercalated ((PPY)xMoO3) and n-butylammonium ions intercalated ((BuN-H3)xMoO3) hybrid materials. Both the compds. exhibit a distinct response to VOCs by increasing in their elec. resistivity. The two types of hybrid materials show different gas selectivity to VOCs, indicating that the VOC gas selectivity can be controlled by the organic components.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:697340 CAPLUS

DOCUMENT NUMBER: 142:420491

TITLE: Electrical conductivity of MoS2 based

organic-inorganic nanocomposites

Benavente, E.; Santa Ana, M. A.; Gonzalez, G. AUTHOR(S): CORPORATE SOURCE:

Departamento de Quimica, Universidad Tecnologica

Metropolitana, Santiago, Chile

Physica Status Solidi B: Basic Research (2004), SOURCE:

241(10), 2444-2447

CODEN: PSSBBD; ISSN: 0370-1972

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal English LANGUAGE:

The elec. conductivities of LixMoS2-organic layer nanocomposites prepared by the intercalation of donors like poly(ethylene oxide) and secondary amines are compared. Although for intercalated MoS2 species a metallic behavior is expected, the products behave as semiconductors probably because of

their layered nature. Observed conductivities at room temperature depend on

host-quest charge transfer reflected in both the amount of residual Li and the donor intercalation degree, as well as on the nature of the donor.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:769871 CAPLUS

DOCUMENT NUMBER: 140:113637

Nanocomposite films of V2O5-MoO3 xerogel with TITLE:

polyethylene oxide intercalation

Zheng, Jin-xia; Chen, Wen; Jiang, Cong-sheng; Xu, AUTHOR (S):

Qing; Ke, Man-zhu

CORPORATE SOURCE: School of Materials Science and Engineering, Wuhan

University of Technology, Wuhan, 430070, Peop. Rep.

China

Journal of Wuhan University of Technology, Materials SOURCE:

Science Edition (2003), 18(2), 35-37

CODEN: JWUTE8; ISSN: 1000-2413

PUBLISHER: Wuhan University of Technology Journal

DOCUMENT TYPE: LANGUAGE: English

Polyethylene oxide (PEO) x-(V0.9Mo0.1) O5-MoO3 films with x being 0, 0.5, 1 were prepared by using the sol-gel method. The synthesis and structure of the films were investigated by XRD, TG-DTA and FTIR. The V2O5-MoO3 xerogel had a layered structure, and its interlayer space increased from 1.3181 nm at x = 0 to 1.7898 nm at x = 1 after the nanocomposite films were dried. PEO in the interlayer changes the interface structure by forming hydrogen bonds with V = O bonds. Cyclic voltammetry measurement indicates that the intercalation of PEO improves insertion/extraction properties of Li+ ions in the interlayer.

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 7 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

2002:299792 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 137:109952

New polyaniline-MoO3 nanocomposites as a result of TITLE:

direct polymer intercalation

Posudievsky, Oleg Yu.; Biskulova, Svetlana A.; AUTHOR (S):

Pokhodenko, Vitaly D.

L. V. Pisarzhevsky Institute of Physical Chemistry of CORPORATE SOURCE:

the National Academy of Sciences of the Ukraine, Kiev,

03039, Ukraine

Journal of Materials Chemistry (2002), 12(5), SOURCE:

1446-1449

CODEN: JMACEP; ISSN: 0959-9428

Royal Society of Chemistry PUBLISHER:

DOCUMENT TYPE: Journal LANGUAGE: English

AB A new nanocomposites based on polyaniline and MoO3 is prepared via direct intercalation of conducting polymer macromols. The method of preparation

allows material to be obtained with peculiar elec. and electronic

properties.

PUBLISHER:

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:887314 CAPLUS

DOCUMENT NUMBER: 136:144150

TITLE: Redox potentials and diffusion of lithium in lamellar

compounds

AUTHOR(S): Ana, M. A. Santa; Benavente, E.; Gonzalez, G. CORPORATE SOURCE: Department of Chemistry, Faculty of Sciences,

Universidad de Chile, Santiago, Chile

SOURCE: Journal of Coordination Chemistry (2001), 54(3-4),

481-492

CODEN: JCCMBQ; ISSN: 0095-8972 Gordon & Breach Science Publishers

DOCUMENT TYPE: Journal LANGUAGE: English

AB Thermodn. and dynamic properties of intercalation products of lithium into MoS2 are strongly determined by the coordination of lithium in the interlaminar spaces. Lithium redox potentials as well as lithium diffusion coeffs. in MoS2 pure, exfoliated, as well as in compds. where lithium is co-intercalated with the polymeric electron pair donors, poly(ethylene oxide) and poly-acrylonitrile, and discrete species, OH- ions and secondary amines, were analyzed comparatively. Reduction potentials in pure or exfoliated MoS2 are always much lower than those observed in lithium-donor co-intercalates. Thus, donors appear to effectively stabilize higher lithium oxidation states. The donors also influence lithium migration properties, with lithium diffusion coeffs. in general higher than in pure MoS2. Lithium diffusion activation energy in pure MoS2 is constant in a relatively large lithium concentration range, while for co-intercalates it often

depends on lithium intercalation degree. These more complex diffusion mechanisms probably arise from changes in the donor conformation in the interlaminar spaces, which affect the lithium first coordination sphere.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:358481 CAPLUS

DOCUMENT NUMBER: 129:96036

TITLE: Mixed conductivity and lithium diffusion in

poly(ethylene oxide) molybdenum disulfide

nanocomposites

AUTHOR(S): Gonzalez, G.; Santa Ana, M. A.; Benavente, E.

CORPORATE SOURCE: Dep. Chem., Fac. Sci., Univ. Chile, Santiago, Chile SOURCE: Electrochimica Acta (1998), 43 (10-11), 1327-1332

CODEN: ELCAAV; ISSN: 0013-4686

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

The elec. conductivity, the lithium diffusion, and the diffusion activation thermodn. of the nanocomposites arising from the co-intercalation of lithium and poly(ethylene oxide) in molybdenum disulfide,
Li0.1MoS2(PEO)0.5 and Li0.1MoS2(PEO)1.0, are analyzed and compared with those of pure MoS2. According to qual. galvanostatic relaxation expts., the products are mixed ionic and electronic conductors with a ratio ge/gi of about 103.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS

L10 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:569479 CAPLUS

DOCUMENT NUMBER: 125:210984

TITLE: Synthesis of Layered MoOPO4 · 2H2O and

Investigation of Its Intercalation Chemistry

AUTHOR(S): Rangan, K. Kasthuri; Gopalakrishnan, J.

CORPORATE SOURCE: Solid State and Structural Chemistry Unit, Indian

Institute of Science, Bangalore, 560 012, India

SOURCE: Inorganic Chemistry (1996), 35(21), 6080-6085

CODEN: INOCAJ; ISSN: 0020-1669

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

The authors describe the synthesis and characterization of a new layered phosphate, MoOPO4·2H2O (1), and its intercalation chemical 1, Crystallizes in a tetragonal structure (a 6.375(7), c 7.80(1) Å, and Z = 2) similar to that of VOPO4·2H2O and was synthesized by the reduction of MoO2(HPO4)·H2O (2) using ethylene glycol in an MeCN medium at .apprx.60°. 1 Could be readily oxidized back to 2 using Br2 in MeCN at room temperature Considering the close structural relation existing between 1 and 2, probably the reduction and oxidation of the phosphates proceed by a topotactic mechanism. 1 Is a novel layered host intercalating a variety of organic bases such as n-alkylamines, pyridine, and aniline, mainly through an acid-base interaction. Unlike VOPO4·2H2O, 1 does not exhibit reductive intercalation reactivity.

L10 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:959188 CAPLUS

DOCUMENT NUMBER: 124:133707

TITLE: Synthesis and properties of a new (PEO)

x [Na (H20)] 0.25MoO3

AUTHOR(S): Nazar, L. F.; Wu, H.; Power, W. P.

CORPORATE SOURCE: Dep. Chem., Univ. Waterloo, Waterloo, ON, N2L 3G1,

Can.

SOURCE: Journal of Materials Chemistry (1995), 5(11), 1985-93

CODEN: JMACEP; ISSN: 0959-9428

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal LANGUAGE: English

Mono- and bi-layers of polyethylene oxide (PEO) were incorporated into the interlayer gap of AxMoO3, to give ordered (PEO)x[Na(H2O)n]0.25MoO3 nanocomposites (x = 0.40, mono-; or 0.90, bi-) with interlayer distances of 12.9 and 15 Å, resp. The driving force for the insertion reaction arises from the solvation of the cations by the PEO, together with the increase in entropy resulting from displacement of H2O mols. from the interlamellar region. The authors propose a model for the structure of the monolayer and bilayer composites based on x-ray diffraction, 13C/23Na solid-state NMR and IR data. The authors have carried out a preliminary comparative study of the electrochem. insertion of Li into the two polymer nanocomposites by using the materials as cathodes in rechargeable Li batteries. Li can be reversibly inserted into both materials. Li ion transport is substantially enhanced in the bilayer nanocomposite as a result of PEO incorporation, compared with the monolayer nanocomposite. The monolayer composite also shows a pronounced decrease in cell capacity on cycling by comparison to the bilayer.

L10 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:911157 CAPLUS

DOCUMENT NUMBER: 124:9943

TITLE: Synthesis of a polyaniline/inorganic nanocomposite

AUTHOR(S): Hill, P. G.; Foot, P. J. S.; Davis, R.

CORPORATE SOURCE: School Applied Chemistry, Kingston University, Surrey,

KT1 2EE, UK

SOURCE: Materials Science Forum (1995), 191, 43-6

CODEN: MSFOEP; ISSN: 0255-5476

PUBLISHER: Trans Tech
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Polyaniline (I) was prepared via an intercalation mechanism. Sodium ions were intercalated into a layer-structured host material, MoO3, and these were then exchanged for a mixture of neutral aniline (II) and anilinium ions. I intercalated as a bilayer. Polymerization of the intercalated II was then attempted firstly by direct reaction with an oxidizing agent in aqueous solution, and then by exposing the dried material to an oxidizing vapor. Preliminary characterization and elec. measurements of the resulting I nanocomposite were made.

L10 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:852237 CAPLUS

DOCUMENT NUMBER: 124:20217

TITLE: Synthesis and characterization of novel intercalation

compounds of molybdenum trioxide and molybdenum

disulfide (polyaniline)
Bissessur, Rabindranath

CORPORATE SOURCE: Michigan State Univ., East Lansing, MI, USA

SOURCE: (1994) 263 pp. Avail.: Univ. Microfilms Int., Order

No. DA9524902

From: Diss. Abstr. Int., B 1995, 56(3), 1406

DOCUMENT TYPE: Dissertation

LANGUAGE: English

AB Unavailable

AUTHOR(S):